

Supply Chain of Millets: An FPO Perspective (With a Special Reference to Odisha)

Sunit Das

*School of Rural Management,
Xavier University, Bhubaneswar
Email: sunitdas.official@gmail.com*

Abstract

The present paper strives to undertake a qualitative analysis of the enabling and constraining factors involved in the supply chain process of transferring the millets from the farmer's field to the consumer plate, which is discussed from the FPOs perspective millet production in Odisha. The analysis is confined to the enabling factors or constraining factors faced by FPOs across Odisha. The analysis reflects the common causes of disruption of the supply chain of millets. Notwithstanding the fact that Odisha Millet Mission has been closely working with the FPOs involved in the millet production since the year 2017, there remains much to be done. It is the prime objective of this paper to suggest some curative measures to enhance the level of the state of the supply chain of millets in particular and its production in general in Odisha, in the light of the above analysis.

Keywords: - Millet, FPO, OMM, Enabling factors, Constraining factors

Reference to this paper
should be made as
follows:

Sunit Das

*Supply Chain of
Millets: An FPO
Perspective
(With a Special
Reference to Odisha)*

Journal Global Values,
Vol. XI, No. II
Article No. 29,
pp. 234- 257
[http://anubooks.com/
?page_id=6195](http://anubooks.com/?page_id=6195)

[https://doi.org/
10.31995/
jgv.2020.v11i02.029](https://doi.org/10.31995/jgv.2020.v11i02.029)

Introduction

The term “Millet” usually denotes small-grained cereals. Millets are one of the oldest cultivated grains in India. It is considered as a staple food in most of the states in India. Millets are drought tolerant and resistive climate crops. In India, sorghum, pearl millet, and six small millets constitute the millet family. The millet group covers finger millet, little millet, Kodo millet, foxtail millet, barnyard millet, and proso millet. These crops are cultivated across the state of Odisha and are commonly known in their vernacular name. These crops have been the vital component of Odisha’s dry farming system, serving the state’s poor and food-insecured people.

The nutritional value of millet caters mainly towards the healthiness of human society. Due to the stiff competition in the market, the people living in urban areas do not care about their dietary patterns. So they become the prey to unhealthy foods like fast food and junk food, which degrade their present health condition and make them frequent visitors to the hospitals for consultation.

The primary reason for the decline of millet absorption in the urban market is the lack of awareness among the people about its nutritional benefits and stiff competition of its competitors like cereals, which are available at subsidized rates due to government policies. Although the millets serve more nutritional value than many of the grains, every individual’s millet word is still not spoken. For an extended period, the reason behind this remains unnoticed from both the producer and consumer end. In the meantime, the cereals started taking up in both rural and urban markets. So if there is the production of millet in any state by few farmers of that state, it remains unsold or destroyed by inadequate storage facility. Around fifty years ago, millets were there, but due to changes in time and policies, the intervention of other edibles and lack of awareness made it low in consumers’ vision. The acceptance of millet did not increase due to rapid modernization.

The Food and Agriculture Organization¹ (as cited in FAO, 2013) considered that “farmers and rural producers organization” refer to be an independent, non-governmental, membership-based rural organization of part or full-time self-employed small farmers, family farmers, small entrepreneurs, and indigenous people. The primary objective of the Farmer Producer Organization (FPOs) is to collect small farmers for backward linkage activities. The activities are– seeds import, fertilizers, credit, insurance, knowledge and extension services, and forward linkage activities such as corporate marketing, processing, and market-led agricultural production. The FPO is now a legal form of company, and according to the 2002 Act passed in the parliament, only the farmer- producer can be part of the FPO. The primary role of

an FPO is to elevate the position of the small farmers in the emerging value chain. Besides, the FPO works towards handling and managing the technical services, consulting services, training, education, research & development to enhance the interest of its members.

Since the present paper's primary objective is to identify the enablers and constraints in the millet's supply chain regarding FPOs and to achieve this objective, we would follow some secondary sources to understand the objective better and generate fruitful results.

To resuscitate the nutritional benefits of millets in Odisha, a flagship programme called "**Special Programme for the Promotion of Millets in Tribal Areas**"² has been launched by the Department of Agriculture and Farmers Empowerment. The Odisha Millets Mission began in 2017, and now it has extended its length to 72 blocks in 14 districts in the tribal area. Odisha was the first state in India to introduce millets in the public distribution system. It has also added 59 seed centers and 48 custom hiring centers in all the 14 districts of the state where the Odisha Millets Mission is actively involved. The 14 regions are mainly–Nabarangpur, Koraput, Malkangiri, Kalahandi, Rayagada, Gajapati, Ganjam, Kandhamal, Mayurbhanj, Keonjhar, Sundargarh, Bargarh, Bolangir, and Nuapada. The Odisha Millets Mission has carried out several activities such as crop cutting experiments, participatory varietal trials, capacity building of participating agencies, and community organizations. Besides, the organization has been trying to introduce the millet in household consumption and popularise millet in the urban area.

The data collection method was carried out to draw a qualitative analysis of the enablers and constraints to achieve the objective. FPOs deal with millets' production based on Odisha. The data and information were collected in the following ways:

Firstly, the publicly available NABARD³ & SFAC⁴ was accessed to locate the FPOs dealing with millets in Odisha state. Secondly, a telephonic survey of FPOs associated with OMM was conducted using an informal interview guideline method, which consisted mixed of close and open-ended questions.

However, we expect some bias and limited sharing of information because the interview guideline questions will not be answered face-to-face. There would be some FPOs whose representatives will not be willing to answer the questions. Also, verification of all the questions will not be possible, but we can plan to counter this by consulting secondary sources and experts.

It may be noted that some significant work has already been done in this area of research. Nalini Bikkina, Rama Mohan R Turaga, Vaibhav Bhamoriya. (2015), examined in their case study paper how FPO can act as a potential institution to

collectivize the farmers of a particular area and help them get the maximum benefit of their produce through an FPO. During the research, the examiner followed a face-to-face interview with the FPO beneficiaries with appropriate interview guidelines, which included open-ended questions related to the overall functioning of the FPO in their area. The interview respondents describe the challenges that the FPO faces were in getting subsidies, credit extension services, technical services, and proper training of the particular area's farmers. The framework for coding and analyzing the researcher's data has been suggested by the Policy and Process Guidelines for FPOs issued by the Department of Agriculture and Cooperation (Department of Agriculture & Cooperation, 2013).

The narratives collected by the researcher have a similar level of agreement at about 82 percent. With this, the coding of the data collected included two themes – input supply and technical services. Firstly the researcher explains how the FPO Avirat facilitates the government-approved seeds' purchasing process with a price benefit of around 10-15 percent for the Rabi season crops like – Cotton, Groundnut, and Cummins. The researcher also says that Avirat has negotiated with the input supplier and procure in bulk with considerable price variation. The seed foundation of Avirat has been in public-private partnership (PPP) with the state-owned Gujarat Seed Corporation and Reliance Industries, which serves as an enabler for the Avirat FPO in procuring the seeds as per the requirement with low price and better quality. The Avirat FPO has not been able to cater to the farmers' needs by not providing them the fertilizers at a subsidized rate.

Secondly, the constraint that the Avirat FPO is facing in getting the subsidized fertilizer is the licensing policy of the Ministry of Chemicals and Fertilizers, Government of India, specifically, the Fertilizer Control Order, 1957/1985, enforced by the state governments prohibits FPOs from marketing fertilizer. With the factors like enabler and constraint that the FPO Avirat is dealing with, the researchers involved in this case study concluded with an important note that the FPO need policy interventions from the government end, which will not only help the FPO to expand its business with not only a few but many of enabler. So by this, the enabling effect will outrage the constraining effect for an FPO.

Subash Surendran Padmaja, Jaya K Ojha, Arathy Ashok, Vinayak Ramesh Nikam. (2019) conducted independent research over the Farmer Producer Companies in India to analyze their trends, patterns, performance, and way forward. The researcher collected the data to write up a research paper sourced from the NABARD and SFAC website with context to the FPOs present all over the state. The paper

involves the visualization of commodity and business activity, which provides useful insights about the commodity and the business activities in which the FPOs are presently involved. In this paper, cross-case analysis has been used to assess the performance and viability of the FPOs in India. The cross-case approach, which has been used by the researcher in this paper, is the variable-oriented approach.

One of the significant findings, in this case, is that there were existences of heterogeneities in terms of product, functioning, how they work, mechanism, etc. There has been no successful model of the FPOs that was selected to undergo analysis. Still, there have been contextual and variances according to the product, marketing, and leadership type available to them. The paper also highlights four stages that should be involved in developing a proper model for an FPO to run its business efficiently and effectively, including early-stage (incubation stage), growth stage, emergence, and mature stage.

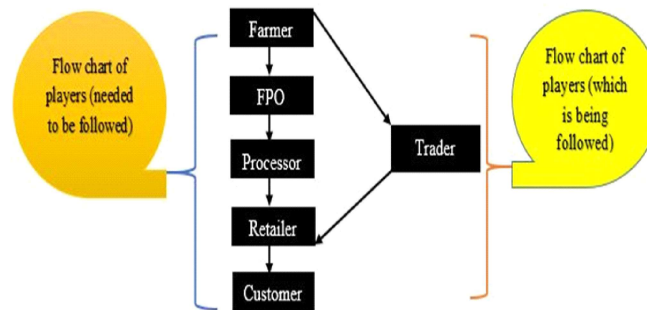
The researcher, in the present paper, also tried to show as to how the FPO, as an institution incubator, can be tied up with a start-up company as an incubator, which means the start-up company can help the FPO in providing equity financing, in which no state has the provision to deal with the financing problem that the FPO face during its operational time.

To bring millet to the household from the farmer's field, it is essential to create a Supply chain.⁵ A supply chain is a network between a company and its suppliers to produce a specific product and distribute it to the buyers. The supply chain mechanism includes producers, vendors, warehouses, transportation companies, distribution centers, and retailers. The main functions involved in the supply chain model are product development, marketing, operations, distribution, finance, and customer service. A robust supply chain model generates results regarding lower costs and faster production cycles.

The supply chain of the millet involves five-player which include the producers (farmers), FPOs (aggregator or facilitator of the produce), processors (have own processing unit), retailers (mandis, harts, local market), and finally the consumers (people living in both rural and urban area). Apart from the model that is needed to be followed for the successful results in the supply chain of the millets, there is another model which is being developed across Odisha, where apart from the existence of an FPO in a particular region, the farmers' produce is procured by the traders with very nominal purchase rate.

Secondly, the supply chain of millets has been disturbed in the past few years across Odisha, due to which some regions have stopped the production of

millets, and some of them have been driven to survive in a pathetic condition. The measures are taken by the State Government as well as by the Central Government to help the regions across Odisha having FPOs involved in the millet production. To withstand the waves of un-acceptance by the market, a policy decision should be made at the administrative level, not at the ground level. Players involved in the supply chain of millets are shown in a diagrammatic way to understand their operation sequence better.



Picture 1: Flow chart showing the players associated with an FPO in the supply chain of Millets

Some factors are responsible for disrupting millets' supply chain from the earlier work done in this research area.

Firstly, there is a dis-aggregation of farmers, resulting in all the farmers' partition, which means part of the farmers believe the FPO and sell their produce. The other part of the farmers sells their output to traders who benefit from enjoying the cash immediately, which the FPO cannot provide to their registered farmers. Due to this disparity among the farmers, the supply chain seems to be disrupted from the producer end itself.

Secondly, there is in-adequate and in-efficient processing facilities, which means that after the producer give their produce to the FPOs, the FPOs fail to process the raw form of the good and take the help of any third party who helps them in the processing thing or else sell the raw form of the product to the traders with a nominal price. From this point, the producer and the FPO lose control over the price of their product, and due to which the supply chain starts degrading from the FPO point also.

Thirdly, the existence of an intensive floundering policy means that India's policymakers have been biased to support the crops acceptable by society. For that reason, the millet crops were not provided a proper area full of resources (although

millets require less cultivation area). Adding to that, weak logistic services tend to be the main challenge involved in the timely logistic or transportation services between the players involved in bringing the produce from the producer to the consumer. Nevertheless, if the transportation service fails, it directly affects the value chain and the millets' supply chain to increase the product's price and 'imbalance in supply and demand equilibrium.

Lastly, the absence of customer awareness about the nutritional benefit that millet gives until now spreads among consumers through word of mouth and informal discussion. The consumer fails to have the ability to evaluate the quality and measure the benefit it takes up by the consumption of millets. The demand scenario for the millets in the urban area started declining. As a result of which the supply chain of the millet seems to be affected.

Similarly, the crop dominancy factor accounts for the same fact that when farmers of a particular area have been engaged in cultivating a certain kind of crop which is suitable for many aspects such as – climatic conditions, market acceptability, consumer preferences, pricing, palatability, government interventions, easy clearance of products, and better consumption pattern in rural as well as urban market and secure account receivable process.

It seems that for a successful and robust supply chain, there needs to be a proper balance in the supply and demand factor in the network chain. The players involved in the supply chain of millets should work as a collective means to transfer millets from producers to consumers' kitchens.

After getting the opportunity to have a telephonic interview with an informal interview guideline method around six FPOs from across Odisha, some information has been collected about their enabling and constraining factors in their business process.

Enabling factors are defined as the factors which include domains like market linkage, financial support, which helps an individual or a collective (such as an FPO/ FPC) to get the things facilitated with the availability of resources and access to services which they have presently and get an overall return from it.

Constraining factors are defined as the factors that include similar domains as that of enabling factors, but they act differently. Therefore, it creates hindrance or obstacles for an individual or an FPO in facilitating their ongoing business process. The enabling factors are detailed as follows:

Firstly, the professional governance/ management domain – most of the FPOs are getting managed by qualified CEOs. They include a far-sighted Board of Directors,

as a result of which the FPOs achieve their 100 percent to deliver their business professionally.

Secondly, for the technical skill set/ awareness domain – most FPOs have farmers who collaborated with them, have sufficient knowledge about collectivization benefits. Moreover, the FPOs have enough understanding of the legal and technical knowledge about the various acts and regulations for the smooth functioning of the FPOs.

Thirdly, for the machinery access domain – most of the FPOs have better access to proper machinery access, as a result of which the produce from the FPOs gets a timely processed to reach the market space. For the institutional support/ government agencies domain, most FPOs are privileged to have this domain as an enabling factor. The handholding support is an essential factor for an FPOs to establish their roots in the ground.

Fourthly, for the middlemen/traders' involvement, the FPOs are generally exposed to many traders or middlemen. These traders/middlemen can be a great asset to an FPO for all its transactions. For transportation/logistics – this domain serves as a more significant resource to the FPOs out there and helps bridge the gap between the FPOs and the market.

Lastly, for the exposure/networking domain – most FPOs get quality exposure and networking facilities to expand their knowledge and understanding to run the FPOs better. The timely monitoring and evaluation domain is mostly acting as an enabler for the FPOs, and the FPOs are getting benefited from this factor. For the manpower availability domain – the FPOs are packed with enough workforce acting as an enabler for them, but this workforce needs the right direction to execute the process.

The constraining factors are as follows:

Firstly for the credit access domain – the FPOs fail to produce collaterals, due to which they do not get easy access to credit. The low credit history of the FPOs also deprives the FPOs to avail the benefits of the credit guarantee scheme. Secondly, for fragile financials – since the marginal farmers represent most FPOs, they initially do not have enough funds to make their products reach their members. They fail to establish a trustworthy relationship.

Thirdly, for the market access/market linkage domain – to make the products reach the nearest marketplace and get them traded at remunerative cost, the FPOs face a considerable hurdle to make the produce processed with some higher cost to make it market-ready as a result of which the FPOs become reluctant to do so.

Fourthly, for the infrastructural access domain – the FPOs lack necessary infrastructure access like storage facilities, value addition, and transport facilities. As a result, the FPOs fail to make their products stored and transported within a specified time frame.

Lastly, for the training and demonstration domain- most of the FPOs lack support in getting qualitative and robust training and demonstration about the functioning of the FPOs. For the input supply domain – most of the FPOs are struggling to get the right inputs from the government’s end, due to which the entire supply chain is delayed.

The following table indicates the enabling and constraining factors for the millet supply chain. (The tick mark (ü) for a particular domain per the particular FPO makes this domain an enabling factor. Similarly, according to the particular FPO, the dot mark (.) for a particular domain makes the domain a constraining factor.)

Domain-Specific Supportive Environment concerning FPOs in Odisha

Sl.No	Domains	Taptapani Farmer Producer Company Ltd.	Sabujima Producer Company Ltd.	Jaivik Sri Farmer Producer Company Ltd.	Kandhamal Farmer Producer Company Ltd.	Pragati Multipurpose Co-operative society Ltd.	Sundareswar Pulse & Millet Producer Company Ltd.
1	Technical skills/ Awareness / Promotions	●	✓	✓	●	✓	✓
2	Professional Management/ Governance	●	✓	✓	✓	✓	✓
3	Financial Support (Investments, Payments-to-farmers)	●	●	●	✓	●	●
4	Credit Extensions (Loans)	●	✓	✓	✓	●	●
5	Machinery Access (Processing Units, Custom Hiring Centres)	✓	✓	●	✓	✓	✓
6	Market Linkage	●	✓	✓		✓	●
7	Infrastructure Access (Storage facility, Packaging)	●	●	✓	✓	✓	✓
8	Government / Institution Support / NGOs / Agencies	✓	●	✓	●	✓	✓
9	Middlemen /Traders	●	✓	●	●	✓	✓
10	Transportation/ Logistics (On – Time Delivery)	✓	●	✓	✓	✓	●
11	Training / Demonstration	✓	✓	●	●	✓	●
12	Exposure/ Networking	✓	✓	✓	●	✓	●
13	Timely Monitoring and Evaluation	✓	✓	✓	●	✓	●
14	Manpower Availability	✓	✓	✓	✓	●	✓
15	Input Supply (Seeds, Fertilizers & Pesticides)	✓	●	●	●	●	✓

After sorting out all the enabling and the constraining factor that the FPOs present across Odisha state, 15 Domains has been finalized, which is serving the six FPOs as an enabling or constraining factor, and the results have been represented in the form of graphical format. From all the domains, only two domains are taken as crucial drivers for disrupting the supply chain as analysed from the FPOs across Odisha. The remaining domains have not been addressed with the latest technologies

for sustenance in the supply chain network.

Ø Technical Skills/ Awareness/ Promotion

The graphical representation highlights that 67 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 33 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

There is no formal institution for conducting technical skills sessions for the farmers and the FPO management. There is non-existent of any Government agency or Private agency that would help the FPO in the promotion of their collected millet produce in the urban market. There is a lack of awareness among the farmers because the training personnel who have been assigned for the particular village along with the FPO concerned with the village do not visit the village or if at all visit the village they do not aware the farmers about the latest news related to the schemes, grants, technology, etc.

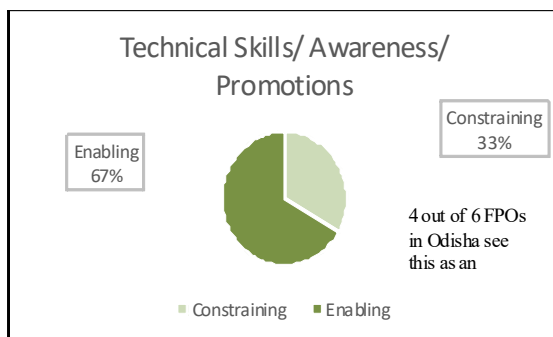


Figure 1: Pie-chart representation of Technical Skills/Awareness/ Promotions of the State

Ø Professional Management/ Governance

The graphical representation highlights that 83 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 17 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

Regarding the professional management, there is the existence of “Conflict of Interest” among the member of the FPO (which include The CEO and The Board of Directors), and all the decision which are taken by the FPO are delayed from the scheduled time or been taken independently without the consent of the members of the FPO. The governance has been a problem for the FPOs because right from the

farmers who are elected to be the FPO members and the CEO does not have the proper educational background or being appropriate qualification find it difficult at a certain level to run the business effectively.

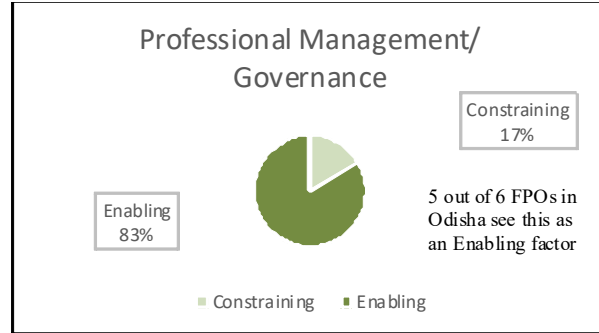


Figure 2 : Pie-chart representation of Professional Management/ Governance domain of state

Ø Financial Support (Investment, On-time Payment)

The graphical representation highlights that 17 percent of the FPOs present in Odisha claim this domain to be an enabling factor, and the remaining 83 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

The FPOs receive good investment because of the government’s FPO’s inspection process or any private company. The FPO fails to produce its annual procurement data and annual selling turnover data. The FPO fails to give financial support to the farmers because they give out the produce to traders over credit and fails to receive money from the traders and as a result of which there is no timely payment of cash to its registered farmers by the FPO and the farmer lose trust on the FPO.

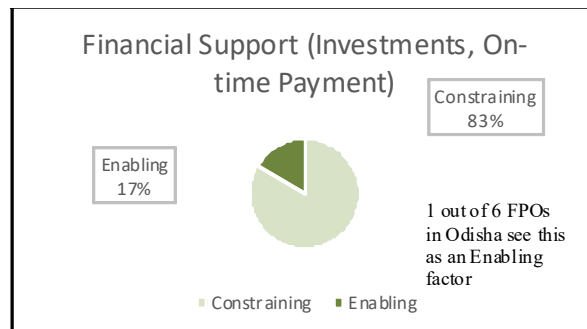


Figure 3: Pie-chart representation of financial support domain of the state

Ø Credit Extension (Loans, Borrowings)

The graphical representation highlights that 50 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 50 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

The farmer in the Board of Directors of the FPO did not allow the CEO to take loans from banks for business expansion on their behalf because they have trust issues with the CEO and with a hope that if the CEO leaves the FPO after taking the loan from the bank what will happen to them.

The farmers used to take borrowings from the traders, who would help the farmers by giving them cash immediately in terms of help, due to which the farmers after their products are sorted rush to the trader to provide their products as an obligation or fear of threat instead of going to the FPO.

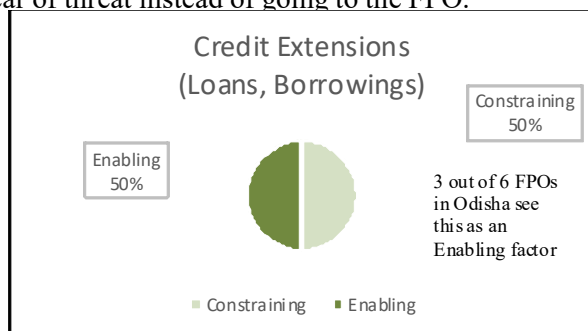


Figure 4: Pie-chart representation of Credit Extension domain of state

Ø Machinery Access (Processing Units, Custom Hiring Centres)

The graphical representation highlights that 83 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 17 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

When an FPO has types of machinery access, such as it is involved in setting up processing units by itself with state government interventions or by its resource institution, the FPO fails to deliver or carry out annual maintenance check-up of types of machinery due to lack of funds. About the “Custom Hiring Centre,” which some FPOs have, and some do not, the FPOs who have this center fail to deliver this service to the farmers because of the limited number of equipment availability and adding to it the equipment loses its durability in a longer time.

Besides the machinery access domain’s failure, the main reason is a lack of coordination among FPOs/FPCs, which means someone wants to use one particular

piece of equipment. At the same time, another person wants to use the same stuff, and then the decision is made by the CEO of the FPO according to his/her willingness. This thing frequently happens in an FPO/FPC because an organization or company suffers from the deficiency of funds to buy or hire machinery for a particular time.

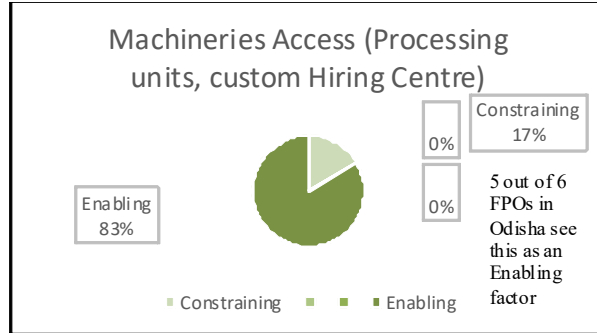


Figure 5: Pie-chart representation of Machineries Access domain of state

Ø Market Linkage

The graphical representation highlights that 50 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 50 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

The FPO fails in timely procurement of the farmer’s produce due to which the trader who visit the FPO to purchase millets, returns with nominal purchased quantity and as result of which, the demand in the market does not get satisfied along with the trader do not turn out to the FPO with a second visit. The FPO fail in maintaining a strong relationship with its registered farmers and also with its traders because the FPO fails in catering to the monetary needs of the farmers and the purchasing needs of the traders and as a result of which the product get delayed in reaching the market, thereby creating cracks in establishing proper market linkage.

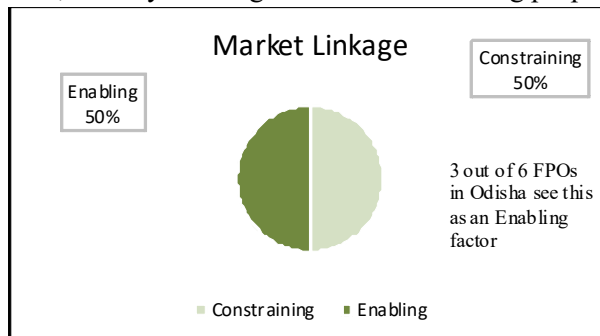


Figure 6: Pie-chart representation of Market Linkage domain of state

Ø **Infrastructural Access (Storage, Procurement, Packaging)**

The graphical representation highlights that 67 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 33 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

The FPO fails to have a proper infrastructure to store down its procurement, which it collects from its registered farmers, and as a result of which the FPO does not succeed in the process of trading. Due to a lack of proper infrastructure access, the FPO fails to deliver the product to the traders who come down to the FPO for the purchase or in the case when FPO transfer the products to the market with the help of logistics because proper packaging is not done at the FPO end and a result of which there is no quality distinguishing is carried out with appropriate labelling tag.

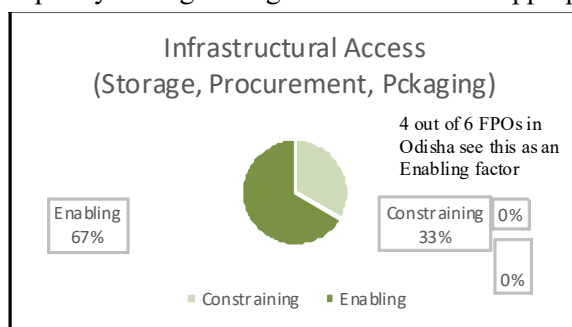


Figure 7: Pie-chart representation of Infrastructural Access domain of state

Ø **Government/ Institution Support/ NGOs/ Agencies**

The graphical representation highlights that 67 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 33 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

It is seen in a quite elaborative means that, initially, the FPO takes the pace of establishing itself with the state government or by its resource institution. However, with the flow of time, the FPO stops receiving support from the state government end or by its resource institution. It fails to facilitate the operation between the farmers and traders, thereby weakening the market linkage. When there is a change in the Government, with the transfer of officials of the state government inter-department wise, the newly in charged official fail to understand the present situation and condition about the operation of FPO in the state.

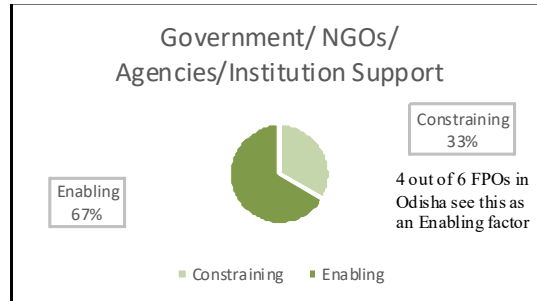


Figure 8: Pie-chart representation of Government/ NGOs/Agencies/ Institution Support domain of state

Ø Middlemen/ Traders

The graphical representation highlights that 50 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 50 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

The middlemen got an opportunity to intrude in the FPO supply chain because the farmers only, the farmer, during their urgent need of cash approach the middlemen. The after result turns out to be that, the farmers out of obligation, sell out their products at a very economical price to the middlemen instead of the FPO. Due to the regular meeting up the farmer with the traders or mediators, they try to brainwash the mind of the farmer against the operations of FPO (such as the FPO is cheating on the farmers by charging them high purchase price for their produce) and a result of which the farmers sell their produce to the middlemen or traders directly without the consent of the FPO. The mediators/traders visit the FPO/FPC frequently so that they could establish a strong relationship with the members of the FPO/FPC. At the same time, they try to find out some potential farmers who have registered themselves with the FPO and talk with them to convince them to sell out their products directly to them instead of selling to the FPO/FPC.

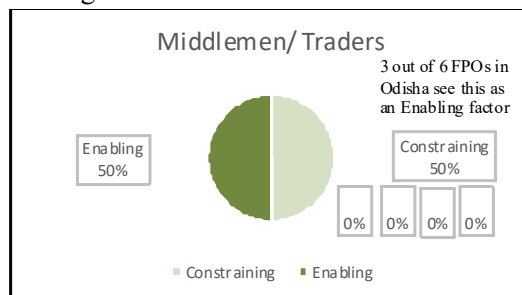


Figure 9: Pie-chart representation of Middlemen/ Trader Intervention

domain of state

Ø Transportation/ Logistics

The graphical representation highlights that 67 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 33 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

The FPO do not have the fund to either buy or hire vehicles to transfer goods to the traders or mandis and as a result of which, the goods don t reach the market at the time and at the same time the trader who has a close bonding with the FPO gradually loses trust on the FPO.

Suppose at all the FPO purchases a vehicle to transfer its goods; in that case, it fails to conduct the annual service check-up of the vehicle, and adding to it also falls short of money to keep a driver regularly and a result of which the business of an FPO is hampered extensively.

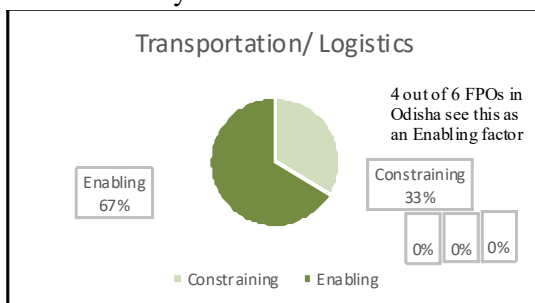


Figure 10: Pie-chart representation of Transportation/Logistics domain of state

Ø Training and Demonstration

The graphical representation highlights that 50 percent of the FPOs present in Odisha claim this domain to be an enabling factor, and the remaining 50 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

The initial training that the registered farmers of an FPO receive are from its resource institution. Still, it is not received or conducted regularly. The farmers who have received it previously may forget it for a long time (basically, the farmers are either uneducated or have little education). There is a lack of training institutions in the state due to which proper training is not conducted for the farmers. If there is an institution, the people engaged in conducting training do not visit the village at the scheduled time.

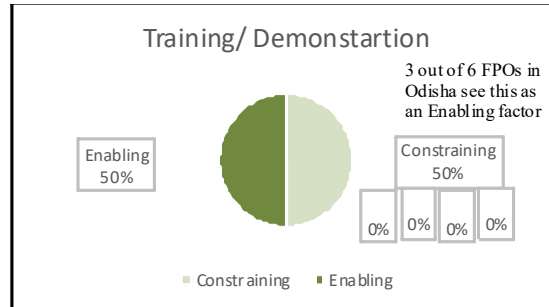


Figure 11:- Pie-chart representation of Training / Demonstration domain of state

Ø Exposure / Networking

The graphical representation highlights that 67 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 33 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

There is no exposure visit attended by the FPO within the state or inter-state wise as a result of which the learning and understanding skills for an FPO as well as for its registered farmers become weaken. If there is an annual meeting between the FPOs of the state, some of the FPOs fail to attend this meeting because the dates that have been fixed for conducting the conference seem to be in-flexible.

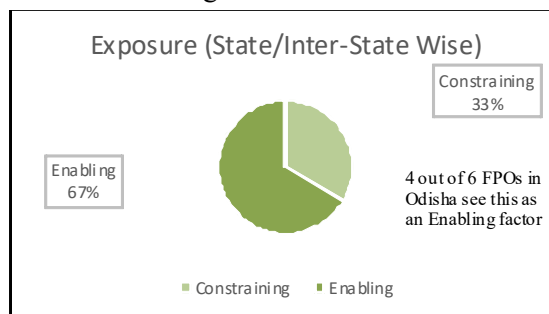


Figure 12:- Pie-chart representation of Exposure / Visits done by the FPOs of state

Ø Timely Monitoring and Evaluation

The graphical representation highlights that 67 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 33 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

There are no timely monitoring surveys conducted neither by the state government nor by its resource institution. As a result, the FPOs keep on shouting about their problem they are facing with the proper functioning of the FPOs. Still, nobody bothers to understand their problem and cater to a solution for it, and finally, the FPO collapses. Regarding the evaluation part, if proper monitoring is not carried out in a suitable means, then there is no point in having a good report on its evaluation. As a result, the FPO fails to receive the feedback, and due to this, it cannot start working over its loopholes.

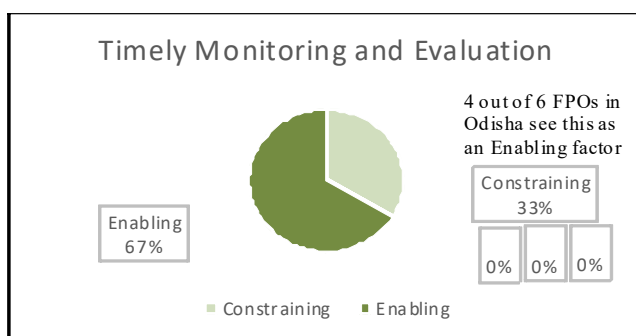


Figure 13:- Pie-chart representation of Monitoring and evaluation domain carried out for an FPO of state

Ø **Manpower Availability**

The graphical representation highlights that 83 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 17 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

With a limited workforce availability, the FPO fails to distribute the tasks among the workers and the members. As a result, all the jobs get burdened over the CEO of an FPO, and doing the job diligently takes much time.

As a result, every work gets delayed from its scheduled timeline. The "Money Factor" seems to be the biggest problem in arranging the workforce for the FPO. Due to a shortage of funds and delay in on-time payment, the people become reluctant to engage themselves with the FPO, due to which the FPO falls short of workers.

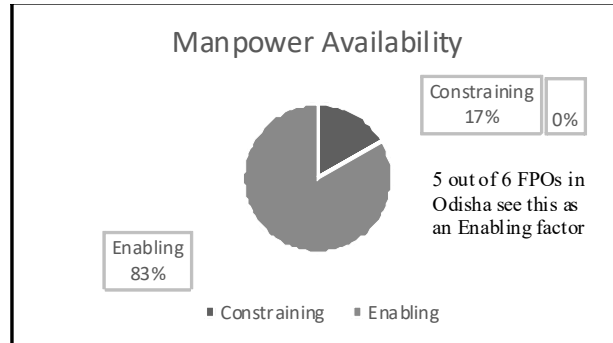


Figure 14:- Pie-chart representation of Manpower Availability in FPOs of state

Ø **Input Supply (Seeds Supply, Fertilizers & Pesticides)**

The graphical representation highlights that 33 percent of the FPOs present in Odisha claim this domain to be an enabling factor. The remaining 67 percent claim this to be a constraining factor. The sub-factors of this domain being a constraint are as follows:

Although there is an opportunity for an FPO for getting an input supply such as quality seeds from seed banks, the FPO does not have the facility to store it and conduct the equitable distribution of seed among its registered farmer over the scheduled time.

There is a delay in the sowing period. Secondly, as the FPO fails to distribute the seeds, it loses an opportunity to get more seeds from seed banks facilitated by its resource institution.

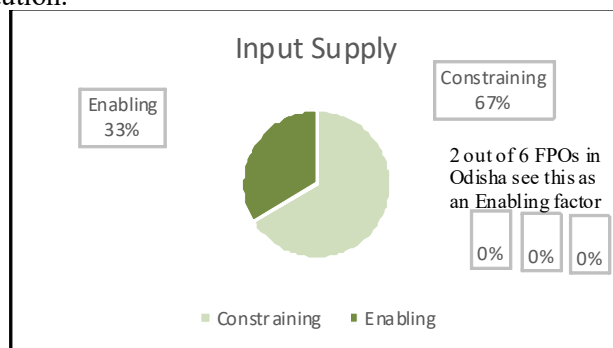


Figure 15:- Pie-chart representation of Input Supply domain of FPOs of the state

Conclusion

From the graphical representation, a brief theoretical explanation of all the domains, which is either acting as an enabling factor or constraining factor in the supply chain of millets from an FPO context across the Odisha state involved in the millet production. The same has been shown in different sections of the chart.

After an in-depth analysis of all the graphical representation of all 15 domains that have been taken into consideration and for the Odisha state for which the domains serves as a constraining factor or enabling factor (which can be seen in the figure number ranging from 1-15). The two main domains indicated in the pie-chart representation over which Odisha state needs to work on, and the same has been said by the FPOs respondent from Odisha also are the “Financial Support” domain and “Transportation/Logistics” domain. These two domains, out of 15 domains, the Odisha FPO, face this as their constraining factor in the degradation of the supply chain of millets compared to other states like Karnataka and Andhra Pradesh, respectively. It is known that the Karnataka state has been the hub for many Agri-tech start-up companies. One of the companies identified as Cropln has partnered with the Karnataka state government to help the FPOs/FPCs in their business operation process and make their business viable and scalable long-run. Adding to it, since Cropln is an established start-up company, it supports the FPOs/FPCs with the initial investment amount to grow and develop itself as a business unit. Secondly, one of the FPO in Andhra Pradesh has been able to run its business sustainably and effectively since the time of establishment in the domain of having an active transportation service to reach out to the customers residing in the urban area without the involvement of any mediators/traders and without any fear of getting cheated. The study of the Farmer Producers Organisations has been quite exciting and insightful as, in addition to knowing about the present status, it has helped explore ways forward. A brief of the recommendations is given as under:

Firstly, the State Government of Odisha’s intervention can help the FPCs/ FPOs get their due grants for running millets’ business, which can easily cover the expenses borne by the members of FPCs/FPOs presently. The funding provided by promoting institutions like NABARD and SFAC is for a specific time, after which they do not support the FPOs/FPCs in an extensive means. Still, with the help of the Government of Odisha, financial support can be mapped easily. To counter the financial support problem faced by the FPOs, we need to categorize the FPOs into three categories, i.e., handholding phase, scaling phase, and mature phase. From the above stages, the FPOs/FPCs in Odisha mainly fall into the second category, i.e., scaling

phase or growth phase, where the funding should be provided as equity financing or venture capital. Although the FPCs/FPOs have all the legal right to get equity financing, the state government has no provision until now, and as a result, the FPCs/FPOs fail to get the right amount of endowment at the right time. The Odisha Millets Mission (OMM) has helped the FPOs bring them on track and make them have a lucrative business in the urban market. It should also look for reaching out to Agri-tech start-up companies (like Samunnati, Cropln) to get a partnership agreement with the State Government of Odisha to smooth the business.

Secondly, coming down to Samunnati, an agricultural finance company that enables growth in the farming ecosystem's value chain. It helps the Farmer Producer Organisation across India to meet the supply of markets. Besides timely financial assistance through agriculture loans, it is, therefore, has pioneered a unique value chain approach that would help the FPOs leverage the economy for more significant benefits. Cropln is an Agri-tech company that helps the FPOs and the farmers registered with it in getting hassle-free agricultural credit risk assessment services, optimization in the loan disbursement process, and loan delinquency management. Thirdly, the FPOs/FPCs in Odisha are facing the problem in domains like Transportation & Logistics -The problem can be countered by Odisha Millets Mission (OMM) by reaching out to Agri start-up companies such as Waycool and AgroWave. They provide supply chain solutions from procuring food products from the farmer's end and delivering the products to the clients/customers directly without intermediaries' involvement. In this way, the players involved (traders/middlemen) between the FPOs/FPCs and the urban markets (customers/clients) are eliminated, and the products reach their destination without delay. These start-up companies, which are being mentioned above, provide the FPOs with GPS- enabled vehicles so that a person sitting at the FPO can track the live movement of vehicles within the state and inter-state wise for their goods products getting transferred.

Lastly, Waycool is an Agri-tech company that not help in the procurement of goods or products from the FPOs but also helps them in timely distribution to its customers/clients. The company also helps in increasing the farmer with innovative quality management and food safety technology. It leverages technology and innovation to improve logistics and distribution services. WayCool establishes direct links to farmers and consumers using a combination of physical and information technology to link them efficiently. Secondly, AgroWave is an Agri-tech start-up company that uses AGROWAVE PROCESS MPS, the technology-driven mobile pickup station in villages at farm-gates. The farm produce is collected from the farmers by the AgroWave representatives for the distribution process.

There are few other domains like Machineries Access, Middlemen/Traders, and Training & Demonstration where the FPOs/FPCs in Odisha facing a nominal percentage of the problem, but the domains like Financial Support and Transportation & Logistics in FPOs/FPCs in Odisha can be improved, if OMM could take the initiative in reaching out to the start-up companies and can put forward their ideas about the establishment of new FPOs/FPCs in the state.

References

- 1 Bikkina, N., Turaga, R. M., & Bhamoriya, V. (2018). Farmer producer organizations as farmer collectives: A case study from India. *Development Policy Review*, 36(6), 669-687. doi:10.1111/dpr.12274. p.6
- 2 S.P, Subash & Ojha, Jaya & Ashok, Arathy & Nikam, Vinayak. (, 2019). Farmer Producer Companies in India: Trends, Patterns, Performance, and Way Forward. 10.13140/RG.2.2.32278.40000. pp. 6, 7
- 3 K., Hariprasanna & Rao, Benhur. (, 2016). Small Millets in India – Current scenario and way forward. *Indian Farming*. 65. 8-13.
- 4 Publications: Odisha Millets Mission. (p.4) (n.d.). Retrieved from <http://www.milletsodisha.com/resources/publications>
- 5 Kenton, W. (2020, July 16). (p.4)How Supply Chains Work. Retrieved from <https://www.investopedia.com/terms/s/supplychain.asp>
- 6 Singh, P. (2015, July 20). Millet value chain. (pp.4, 5) Retrieved from <https://www.slideshare.net/prabeensingh/millet-value-chain>
- 7 Waycool(n.d.).Retrieved from (pp.23-24)<https://www.crunchbase.com/organization/waycool>
- 8 Farmers. (2019, February 13) (pp.23-24). Retrieved from <http://agrowaves.in/farmers/>
- 9 SmartRisk – AI & ML Powered Risk Mitigation & Forecasting Intelligence Platform. (p.22) (n.d.). Retrieved from <https://www.CropIn.com/smartrisk/>
- 10 (PDF) Helping Agribusinesses-Small Millets Value Chain-To Grow in India. (p.3) (n.d.). Retrieved from https://www.researchgate.net/publication/323832211_Helping_Agribusinesses-Small_Millets_Value_Chain-To_Grow_in_India
- 11 Farmers Producer Organization as Farmer Collectives <https://web.iima.ac.in/assets/snippets/workingpaperpdf/10539809132015-01-05.pdf>

(Footnotes)

- ¹ Malnutrition - Term Paper. <https://www.termpaperwarehouse.com/essay-on/>

Malnutrition/480822

- 2 BASELINE SURVEY - ncfs.nic.in. <http://ncfs.nic.in/sites/default/files/PR12NCFS2020.pdf>
- 3 <https://nabfpo.in/images/staticFPO.html>
- 4 <http://sfacindia.com/List-of-FPO-Statewise.aspx>
- 5 <https://www.investopedia.com/terms/s/supplychain.asp>
- 6 Column: Learning stock market whizdom | Opinions.... http://www.collegiatetimes.com/opinion/column-learning-stock-market-whizdom/article_958a8c5b-ef9b-5ac6-84f2-517316eb445c.html